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Recommendations and levels of evidence underlying the current guidelines of the European Society of Cardiology

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Introduction: European Society of Cardiology has been providing guidelines for the diagnostic and therapeutic approach of many cardiovascular diseases. It is important to understand whether actual guidance is based on robust evidence in the current evidence-based medicine era. Therefore we aimed to describe the current scenario of recommendations in ESC cardiovascular guidelines and the distribution of levels of evidence across recommendations.

Methods: Data from current disease-based ESC practice guidelines were scrutinized. Guidelines evaluating procedures across conditions (e.g. myocardial revascularization) were not included. The number of recommendations and the distribution of classes of recommendation (I, II, and III) and levels of evidence (A, B, and C) were determined.

Results: Considering the 21 current disease-based guidelines reporting levels of evidence, there were 2621 recommendations. About 13.8% were classified as level of evidence A, whereas 57% of the recommendations were level of evidence C. Class I recommendations (1309) were substantially based on level of evidence C (49.5%), while level of evidence A supported 20.5% of these recommendations. Class III recommendations (198, 7.5% of all recommendations) relied mostly on level of evidence C (56.1% of class III recommendations). Nevertheless, level of evidence A recommendations were often used to provide class I recommendations.

Conclusions: Recommendations issued in current ESC disease-based guidelines are largely developed from lower levels of evidence or expert opinion. The expansion of evidence-based data from which clinical practice guidelines are derived is required.